UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

DEC 21 2007

4WD-RCRA

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. William A. Schimming
Director Environment
PCS Administration (USA), Inc.
Suite 400
1101 Skokie Boulevard
Northbrook, IL 60062

SUBJ: Notice of Violation
EPA I.D. No.: FLD000622548

Dear Mr. Schimming:

On August 2 & 3, 2007, the U.S. Environmental Protection Agency (EPA) and the Florida Department of Environmental Protection (FDEP) conducted a hazardous waste compliance evaluation inspection at the PCS-Swift Creek Facility in White Springs, Florida. This compliance evaluation inspection included pH sampling. A total of six (6) pH samples were collected during the August 2 & 3, 2007, inspection. Enclosed is EPA's RCRA Compliance Evaluation Inspection Report.

Based on information collected during this inspection, EPA has determined that PCS-Swift Creek violated certain requirements of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§ 6901 et seq., as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA), Pub. L. 98-616, the Florida Statute §403.701 *et seq.* and Florida Administrative Code (F.A.C.) Chapter 62-730.

Specifically, the violations, documented during the August 2 & 3, 2007, inspection include:

1. Section 3005 of RCRA, 40 C.F.R. § 270.10, for treating, storing, and/or disposing of a hazardous waste without a permit or interim status in the unlined Cooling Pond System. Specifically, PCS-Swift Creek discharged wastewater from the superphosphoric acid (SPA) process into the Cooling Pond System with a pH of less than 2. As a result of this violation, PCS-Swift Creek is also in violation of the applicable requirements promulgated pursuant thereto and found at 40 C.F.R. Parts 260 - 270.

2. 40 C.F.R. § 262.11, for failing to determine if the process wastewaters generated from the SPA production specifically, SPA return pond water, the A Scrubber Effluent, the B SPA Barometric Condenser Effluent, and the 2,200 tons of phosphoric acid/gypsum solids and gypsum scale removed from the North Storage Tank in April of 2006 discharged into the Cooling Pond System are hazardous wastes.

3. 40 C.F.R. §§ 268.40(a), 268.4, 268.7, 268.9, and 268.14, by disposing of D002 hazardous wastewater from the SPA Process and clean-out activities into an unlined surface impoundment without determining the applicable treatment standards; by disposing before the treatment standards were met; by failing to comply with the other notice, certification, and waste analysis requirements in these sections; and by failing to comply with 40 C.F.R. Part 264/5, Subpart F.

4. Florida Statute violation which requires the facility to notify for generating over 1000 kilograms of hazardous waste in any month and may have violated the applicable 40 C.F.R. Part 262 large quantity generator regulations.

Please be aware that Section 3008(a) of RCRA, 42 U.S.C. § 6928(a), authorizes EPA to assess penalties of up to twenty-seven thousand five hundred dollars ($27,500) per day for each violation of RCRA regulations occurring from January 30, 1997, until March 15, 2004. For any violation occurring after March 15, 2004, EPA may assess penalties of up to thirty-two thousand five hundred dollars ($32,500) per day for each violation of RCRA. EPA may proceed with enforcement action against PCS as authorized under Section 3008(a) of RCRA, 42 U.S.C. § 6928(a), including the assessment of appropriate civil penalties.

If you have any technical questions regarding the alleged violations, please contact Kris Lippert at (404) 562-8605. Legal inquiries should be directed to Mita Ghosh, Associate Regional Counsel, at (404) 562-9568.

Sincerely,

Kelly Sisario, Acting Chief
RCRA & OPA Enforcement & Compliance Branch
RCRA Division

Enclosures

cc: Mike Fitzsimmons w/encl. – FDEP
Tim Bahr w/encl. - FDEP
Chris Bodin w/encl. - FDEP

RCRA Case Development Evaluation/ Inspection Report

1) Inspector and Author of Report

Kristin Lippert, Senior Enforcement Specialist

2) Facility Information

White Springs Agricultural Chemicals, Inc., d/b/a PCS Phosphate – White Springs
(PCS Phosphate or PCS)
Swift Creek Complex
US Highway 41 N
White Springs, Florida 32096

Mailing Address:
P.O. Box 300
White Springs, Florida 32096
Phone: (386) 397-8734

EPA ID No.: FLD 000 622 548

3) Responsible Official(s)

William A. (Bill) Schimming, Director Environment
PCS Administration (USA), Inc.
Suite 400
1101 Skokie Boulevard
Northbrook, IL 60062
(847)849-4302
Email: waschimming@potashcorp.com

4) Date(s) of Inspection

August 2 & 3, 2007

5) Inspection Participants

Bill Schimming	PCS, Director Environment
Charles Pults	PCS, Senior Environmental Engineer
Karin Torain	PCS, General Counsel
Bill Ellis	PCS, Production Engineer
Stan Posey	PCS, Engineering Manager
Jeff Kitto	PCS, Production Superindendent
Chris Bodin	Florida Department of Environmental Protection (FDEP)
Kristin Lippert	U.S. Environmental Protection Agency, Region 4 (EPA)
Mita Ghosh	EPA, Associate Regional Counsel

6) Applicable Regulations

40 Code of Federal Regulations (CFR) Parts 260-279, Resource Conservation and Recovery Act (RCRA) Sections 3002, 3004, 3005 and 3007, (42 U.S.C. §§ 6922, 6924, 6925, and 6937), Florida Statute Part IV Resource Recovery and Management, Chapter 403, Part IV, Sections 403.701 and 403.091, Florida Statutes, and the regulations promulgated and adopted by reference and set forth at the Florida Administrative Code (F.A.C.) Annotated Chapter 62-710 and 62-730.

7) Purpose of Inspection

This inspection was conducted as part of the National Priority for Mining and Mineral Processing and was an EPA lead Case Development Investigation/Evaluation (CDIE) to determine PCS's compliance with the applicable requirements of the State and Federal RCRA statutes and regulations.

8) Facility Inspection History

PCS's most recent previous RCRA CEI was performed on April 13, 2005, by US EPA personnel.

9) Facility Description

PCS's Swift Creek Complex shares approximately 100,000 acres of land in Hamilton County, Florida with PCS's Mining Operations and PCS's Suwannee River Complex. Currently, PCS employs approximately 950 personnel and operates continuous 24/7 shifts. They have notified as a small quantity generator of hazardous waste in the State of Florida.

10) Findings

The inspection began with an opening conference at 2:00 pm on August 2, 2007. The purpose of this inspection was to concentrate on the superphosphoric acid (SPA) manufacturing process. A closing conference was held following the inspection on August 3, 2007. PCS' comments and corrections to EPA's April 13, 2005, inspection report submitted to EPA on August 31, 2007, areas inspected during this inspection, areas sampled, sampling results, PCS' response to EPA's request for information dated November 14, 2007, and findings are as follows:

General Process Overview

PCS produces a black liquid superphosphoric acid (SPA). (See Exhibit A attached – process flow diagram.) Sulfuric acid and phosphoric acid are essential ingredients in the aforementioned process. Sulfuric acid is produced and consumed on-site. Phosphoric acid is produced using the Hemi-Hydrate process. The reaction yields phosphoric acid and calcium sulfate hemi-hydrate (phosphogypsum or gypsum). The phosphoric acid is then further refined to produce the black liquid superphosphoric acid.

PCS operates two sulfuric acid plants and one phosphoric/superphosphoric acid plant. A brief description of each plant/area and subsequent findings are summarized in the following pages of this report.

Sulfuric Acid Plants

A preliminary step in the production of phosphoric acid and subsequent products is the manufacture of sulfuric acid which is used in the digestion of phosphate rock to produce the resultant phosphoric acid. Sulfuric acid is produced in two identical plants onsite, designated as the E and F Plants.

Waste Management at the Sulfuric Acid Plants

Continuous effluent streams from the sulfuric acid plants include process wastewaters and stormwater run-off.

Process wastewater streams from the production of sulfuric acid include, among others, boiler blowdown from the waste heat boilers, cooling tower blowdown and demineralizer water. All process wastewater streams are discharged into a tank-system elementary neutralization unit (ENU) where the pH is adjusted.

Wastewaters from the Sulfuric Acid Plant are not exempt from regulation under Section 3005 of RCRA if they exhibit one or more characteristics identified in 40 CFR § 261.20-.24 (adopted by reference at F.A.C. Chapter 62-730). PCS appeared to be in compliance by utilizing an elementary neutralization system to neutralize low pH (< 2 pH units) wastewaters from the sulfuric acid process. To verify compliance, on April 13, 2005, EPA took pH readings of water in the main sulfuric acid ditch, the cooling tower blowdown, and the boiler blowdown. The pH of the water in the sulfuric acid ditch was 6.7; the pH of the cooling tower blowdown was 6.6; the pH of the boiler blowdown was 6.2.

Demineralizers/ Water Neutralization Plant

Well water for the sulfuric acid process is treated with lime. After lime is added to the well water, the slurry is sent to a clarifier where solids are settled. The clarified water is sent through a demineralizer where it proceeds through a cation exchange, followed by an anion exchange. Water from the demineralizer then goes to a storage tank prior to use in the boilers where it is converted to process steam.

Phosphoric Acid/Superphosphoric Acid Plant

PCS receives phosphate rock (calcium fluoroapatite) from its mining operations located on its contiguous property. The rock is fed into one of two reactors in parallel along with recycled #4 Filtrate (strong acid wash), #3 Filtrate (weak acid wash), and wash water from the process. Sulfuric acid is added in the reactor series as a sulfate source. After completing the reaction, the process stream is washed with pond water over a filter. The filtercake is composed primarily of hemihydrate gypsum ($CaSO_4$ $\frac{1}{2}H_2O$) and is transported with pond water to the gypstack. The leached acid leaving the Hemi-Hydrate

Process is 38% phosphoric acid. The 38% phosphoric acid is then sent to one of two evaporators in parallel which concentrates the acid to 48% phosphoric acid. The 48% phosphoric acid is sent thru the Purification Process in which calcium fluoride is added as a flocculant in four aging vessels prior to filtering the acid to remove aluminum and magnesium. After purification, the acid drops down to 44% phosphoric acid. The 44% phosphoric acid is then sent to one of two evaporators in parallel to concentrate the acid to 54% phosphoric acid.

According to the facility, in order for the 54% phosphoric acid produced by PCS-Swift Creek to be sold commercially as merchant grade phosphoric acid, PCS-Suwannee River would need to purify the acid, a process that entails cooling, aging, settling and filtration.

Frequently, on at least a monthly basis, this 54% phosphoric acid is sent over to the Suwannee River Processing Complex by rail car to be used in manufacturing merchant grade amber acid, green liquid SPA (LoMag), monoammonium phosphate (MAP) and diammonium phosphate (DAP). Generally, PCS-Suwannee River does not process the 54% acid but blends the 54% acid with 54% phosphoric acid produced by PCS-Suwannee River and uses the blend in its MAP/DAP operations.

At PCS-Swift Creek, the 54% phosphoric acid is sent to one of two final high pressure steam (475 lbs) evaporators in parallel. The high pressure evaporators concentrate the 54% phosphoric acid to 70% superphosphoric acid (SPA). The high pressure evaporator drives off water thru a chemical and polymerization process/reaction.

PCS sells its black liquid SPA worldwide. The SPA is shipped off-site via railcar or truck. The black liquid SPA is used to make animal feed, water treatment chemicals, electronics, and fertilizers.

PCS has two (2) 805,000 gallon SPA storage Tanks on-site (the North Storage Tank and the South Storage Tank). Approximately every ten (10) years, the sludge that accumulates in the storage tanks is removed. In April of 2006, the North Storage Tank was cleaned and approximately 2,200 tons of phosphoric acid/gypsum solids and gypsum scale were removed. The sludge had 47.6% phosphoric acid. The sludge was disposed onto the gypstack.

Therefore, PCS is in apparent violation of 40 C.F.R. § 262.11, for failing to determine if the sludge generated from the cleanout of the North Storage Tank is a hazardous waste.

Therefore, PCS is in apparent violation of Section 3005 of RCRA, 40 C.F.R. § 270.10, for treating, storing, and/or disposing of the sludge generated from the cleanout of the North Storage Tank without a permit or interim status in the Gypstack and Cooling Pond System. As a result of this apparent violation, PCS also appears to be in violation of the applicable requirements promulgated pursuant thereto and found at 40 C.F.R. Parts 260 - 270.

Therefore, PCS is in apparent violation of 40 C.F.R. §§ 268.40(a), 268.4, 268.7, 268.9, and 268.14, by disposing of the sludge generated from the cleanout of the

North Storage Tank into an unlined Gypstack and Cooling Pond System without determining the applicable treatment standards; by disposing before the treatment standards were met; by failing to comply with the other notice, certification, and waste analysis requirements in these sections; and by failing to comply with 40 C.F.R. Part 264/5, Subpart F.

Waste and Pondwater Management at the Phosphoric/ Superphosphoric Acid Plant

The phosphoric acid/superphosphoric plant, after the Hemi-Hydrate process, is equipped with two (2) Venturi scrubber systems which uses pond water to remove fluoride at various stages of the process (Scrubber A and Scrubber B). Recycled process water is used in the scrubbers. Scrubber A controls the 48% Acid Evaporators, the 54% Acid Evaporators, the High Pressure SPA Evaporators, and the four (4) aging vessels in the Purification Process. Scrubber B only controls the drum filter in the Purification Process. A barometric condenser is associated with each of the evaporators. Pond water/recycled process water is used as the scrubbing media for the scrubber systems and also in the barometric condensers. The effluent pond water from the scrubbers and the effluent pond water from the condensers are returned to the Cooling Pond System.

On August 3, 2007, a pH reading was taken at the B SPA Barometric Condenser Effluent, the A Scrubber Effluent, and the B Scrubber Purification Filter Effluent. The pH reading at the B SPA Barometric Condenser Effluent was 1.27. The pH reading at the A Scrubber Effluent was 1.28. The pH reading at the B Scrubber Purification Filter Effluent was 1.28.

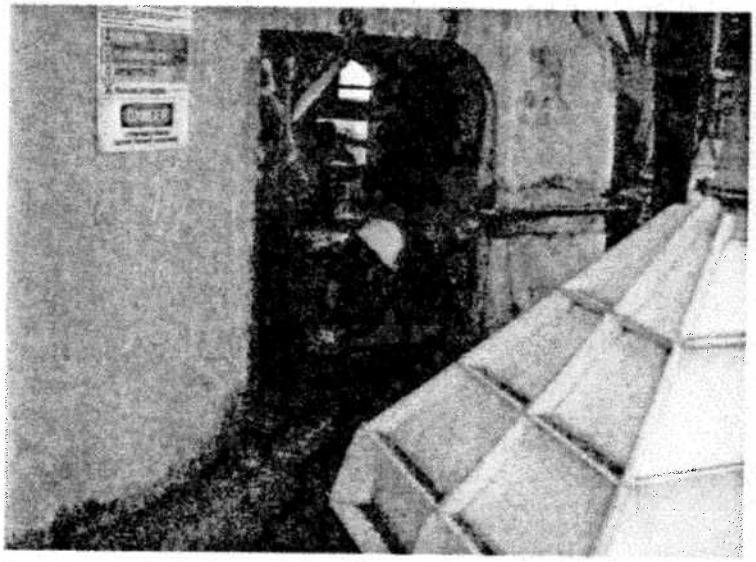


Photo #1: pH reading at the B SPA Barometric Condenser Effluent

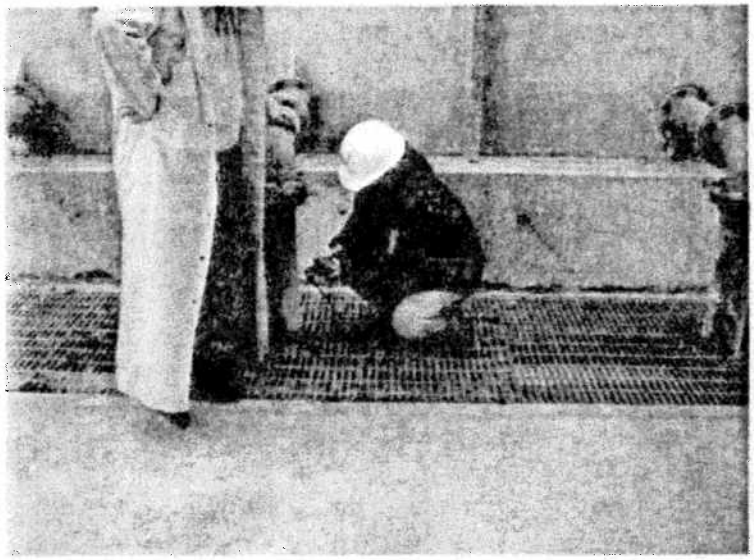


Photo #2: pH reading at A Scrubber Effluent

Photo #3: pH reading at B Scrubber Purification Filter Effluent

Pond water returns are generated from each of the evaporators. Gypsum solids and pond water are generated in the Purification Process. The pond water returns and the gypsum solids are returned to the Gypstack and Cooling Ponds System. On August 3, 2007, a pH reading was taken at B SPA Evaporator Effluent. The pH reading at the B SPA Evaporator Effluent was 1.30.

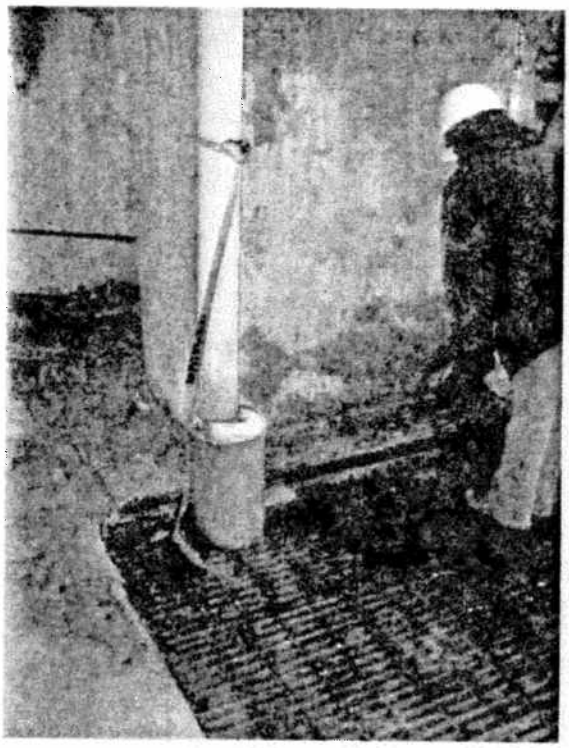


Photo #4: pH reading at B SPA Evaporator Effluent

Therefore, PCS is in apparent violation of 40 C.F.R. § 262.11, for failing to determine if the SPA return pond water, the A Scrubber Effluent, and the B SPA Barometric Condenser Effluent are hazardous wastes.

At the time of the inspection, PCS had notified as a Small Quantity Generator of hazardous waste. Based on information discovered at the time of the inspection, the facility is generating more than 1,000 kilograms of hazardous waste per month. The facility has failed to notify on the following hazardous waste streams: the North Storage Tank cleanout, the SPA return pond water, the A Scrubber Effluent, and the B SPA Barometric Condenser Effluent.

Therefore, PCS is in apparent violation of Section 3005 of RCRA, 40 C.F.R. § 270.10, for treating, storing, and/or disposing of the SPA return pond water, the A Scrubber Effluent, and the B SPA Barometric Condenser Effluent without a permit or interim status in the Gypstack and Cooling Pond System. As a result of this apparent violation, PCS also appears to be in violation of the applicable requirements promulgated pursuant thereto and found at 40 C.F.R. Parts 260 - 270.

Therefore, PCS is in apparent violation of 40 C.F.R. §§ 268.40(a), 268.4, 268.7, 268.9, and 268.14, by disposing of the SPA return pond water, the A Scrubber Effluent, and the B SPA Barometric Condenser Effluent into an unlined Gypstack and Cooling Pond System without determining the applicable treatment standards; by disposing before the treatment standards were met; by failing to comply with the

other notice, certification, and waste analysis requirements in these sections; and by failing to comply with 40 C.F.R. Part 264/5, Subpart F.

Process wastewaters generated solely from the production of phosphoric acid are solid wastes pursuant to 40 CFR § 261.4, but are exempt from hazardous waste regulation pursuant to 40 CFR § 261.4(b)(7)(ii)(P). **Process wastewaters generated from the production of superphosphoric acid are solid wastes and are <u>not</u> exempt from hazardous waste regulation pursuant to 40 C.F.R. § 261.4(b)(7).**

As stated above, gypsum generated from phosphoric acid and subsequent superphosphoric acid production is slurried with process water and is pumped to the gypsum storage stack where, over time, the water decants from the gypsum and drains into an unlined earthen cooling loop and pond system surrounding the stack. Gypsum generated from the production of phosphoric acid is a solid waste pursuant to 40 CFR § 261.4, but is exempt from hazardous waste regulation pursuant to 40 CFR § 261.4(b)(7)(ii)(D).

Laboratory

PCS only has a minor support laboratory onsite. Analytical support is provided mainly by the Suwannee River Complex laboratory.

Tank Farm

PCS-Swift Creek's phosphoric acid tank farm consists of five process storage tanks, four aging tanks, and two finished product storage tanks (the SPA North and South Storage Tanks). If a tank needs to be cleaned (scale removed), product is moved to another tank. The tank to be cleaned is then flushed with recycled process water and then pressure washed with fresh water to remove scale. Any scale generated from the cleanout is transported to the gypstack and the water is returned to the process water pond. (See page 4 of this inspection report for apparent violations pertaining to the cleanout of the North Storage Tank.)

Gypstack and Cooling Pond System

PCS-Swift Creek currently manages one gypsum storage stack. The stack and its dedicated Cooling Pond System is only underlain by native clays. The entire System comprises 450 acres. The Cooling Pond System receives water streams from various processes including: the SPA scrubbing systems, the SPA pond water returns, the SPA barometric condensers, line cleanings and tank cleanings.

Additionally, gypsum solids are generated in the Purification Process and pumped with pond water back to the Gypstack and Cooling Pond System. On August 3, 2007, a pH reading was taken at the Incoming Point Water Pumps and the Southwest Pond. The pH reading at the Incoming Point Water Pumps was 1.27. The pH reading at the Southwest Pond was 1.30.

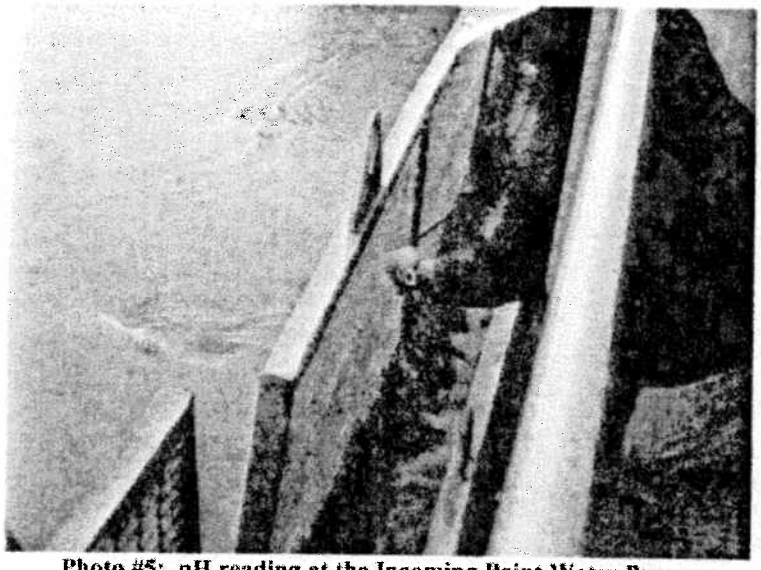


Photo #5: pH reading at the Incoming Point Water Pumps

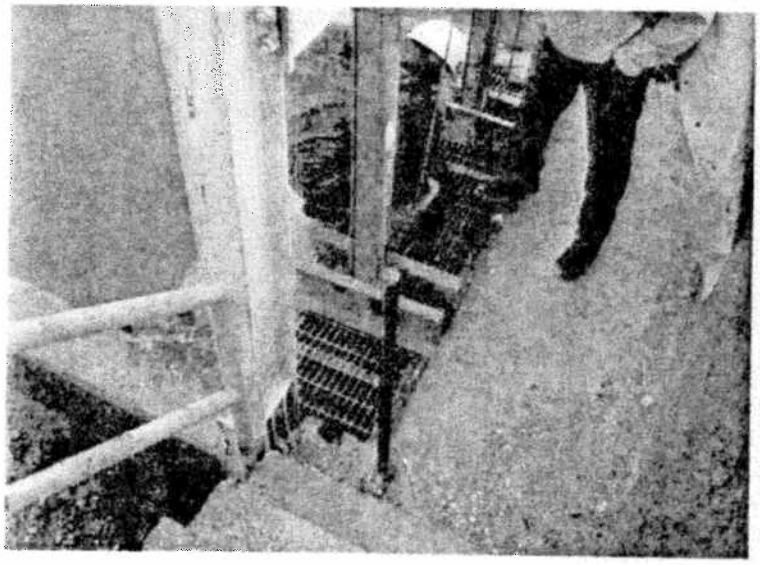


Photo #6: pH reading at the Southwest Pond

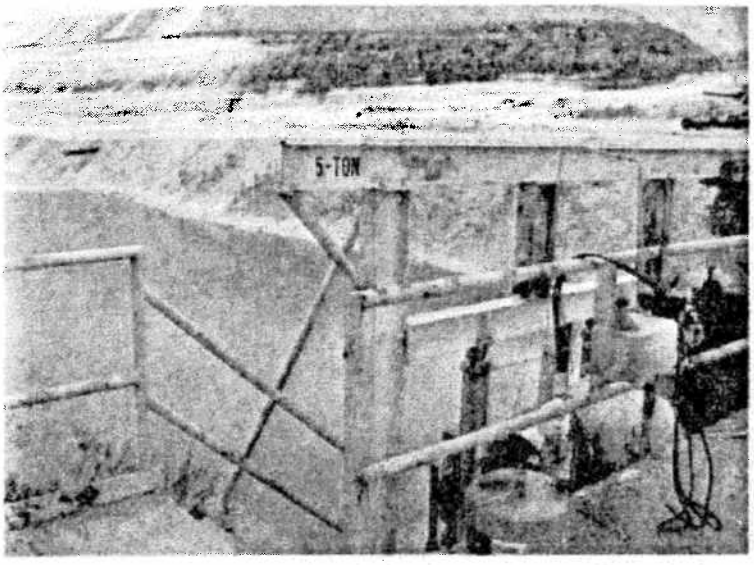


Photo #7: Another view of the pH reading at the Southwest Pond

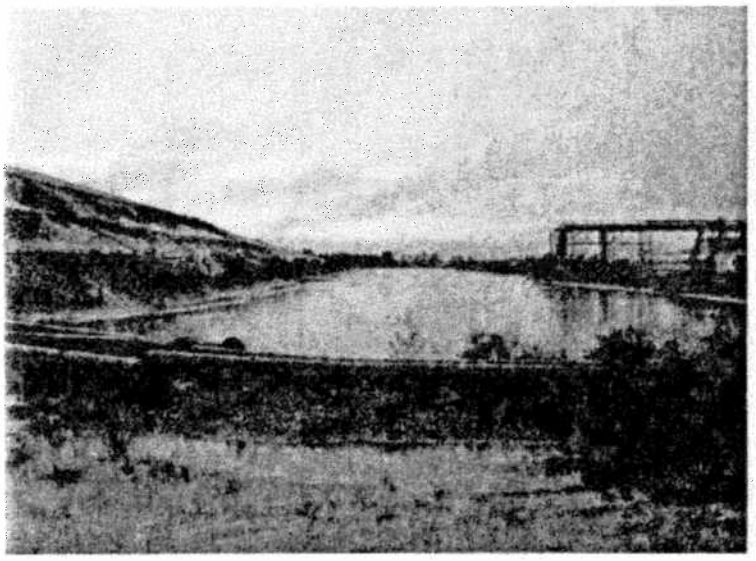


Photo #8: A view of the Pond Water System from the Southwest Pond looking north. The Incoming Pond Water Pumps are on the right side of the picture.

Railcar Loading/Unloading Area

PCS-Swift Creek does not perform railcar cleanout at this facility. The area is, however, equipped with a sump to contain any spills and/or leaks from loading/unloading the railcars. According to facility personnel liquids contained in the sump, designated as the "railcar loading sump," are pumped back to the phosphoric acid storage tanks.

Oil/Water Separator

PCS-Swift Creek has several oil storage tanks and pumps onsite. In order to separate rainwater from oil, they utilize an oil/water separator.

11) Inspection Conclusion

At the time of the inspection, PCS-Swift Creek has notified as a Small Quantity Generator of hazardous waste. Based on information discovered at the time of the inspection, the facility is generating more than 1,000 kilograms of hazardous waste per month and is operating as a Treatment, Storage, and/or Disposal Facility (TSDF). Several violations were discovered at the time of the inspection and noted in this inspection report.

12) Signed:

Kristin Lippert
Environmental Engineer

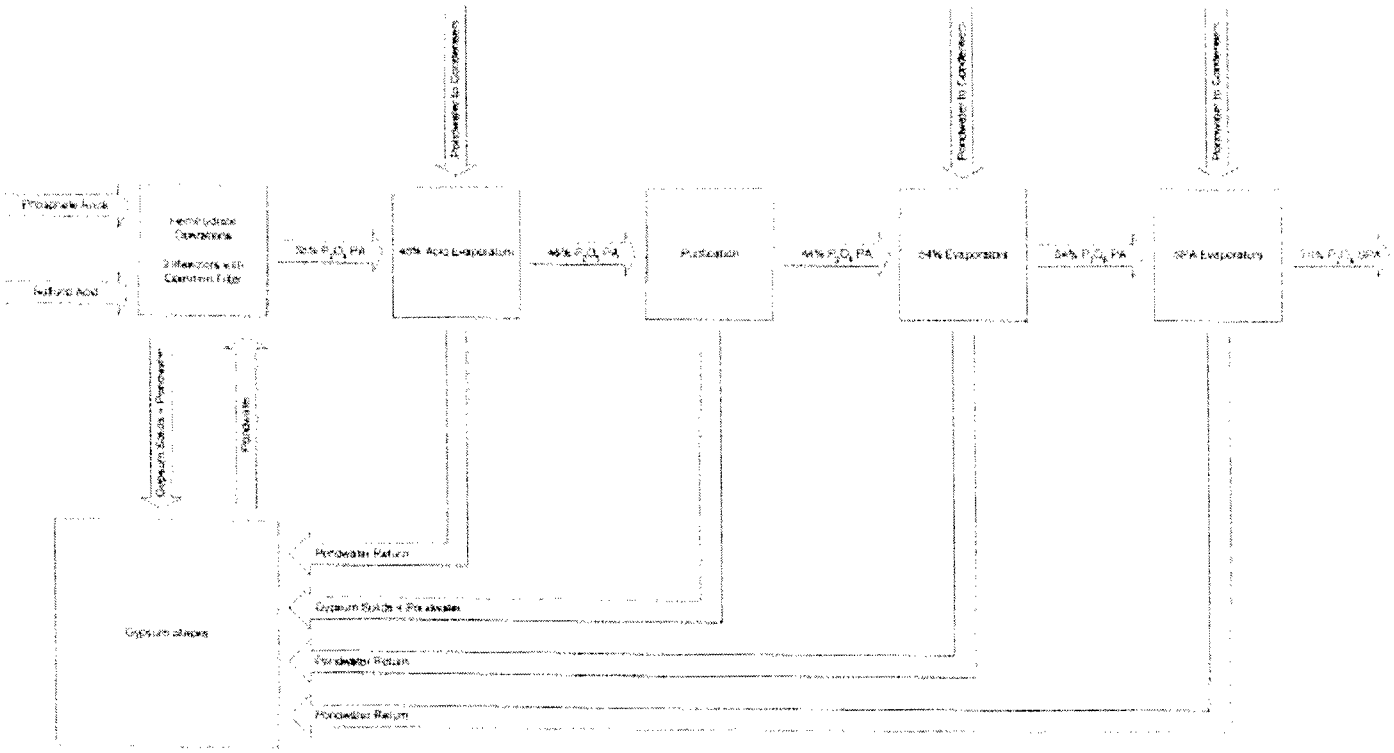
11/29/07
Date

13) Concurrence:

Frank Ney, Acting Chief
South Enforcement and Compliance Section
RCRA & OPA Enforcement & Compliance Branch

12/18/07
Date

EXHIBIT A



PCS Phosphate - Swift Creek Chemical
Plant Overview

Prepared 8/4/2021 by SR, LAL

Drawing not to scale